

## METHOD AND APPARATUS FOR A NEAR-UNITY DIVIDER IN A DIRECT CONVERSION COMMUNICATION DEVICE

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### ABSTRACT OF THE DISCLOSURE

A near-unity divider apparatus in a direct conversion communication device includes a reference frequency, that is not on-channel, input to a multiply-by-two circuit that doubles the reference frequency. A divide-by-three circuit divides the doubled frequency by three to provide a first fractionally-divided frequency at a transmit or receive frequency. A delay generator inputs the first fractionally-divided frequency from the divide-by-three circuit and provides a second fractionally-divided frequency delayed a predetermined time period. A gate circuit combines the first and second fractionally-divided frequencies to provide a transmit or receive frequency with an adjustable duty cycle dependant upon the predetermined time period.